

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/090210 A1**

(51) International Patent Classification<sup>7</sup>: **B65G 47/84**,  
29/00

(21) International Application Number:  
PCT/GB2005/000781

(22) International Filing Date: 1 March 2005 (01.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0406230.3 19 March 2004 (19.03.2004) GB

(71) Applicant (for all designated States except US): **THE BOC GROUP PLC** [GB/GB]; Chertsey Road, Windlesham, Surrey GU20 6HJ (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DAMEN, Franciscus, Antonius** [NL/NL]; c/o BOC Edwards Pharmaceutical Systems BV, Steenstraat 7, Postbus 111, NL-5107 NE Dongen (NL).

(74) Agent: **BOOTH, Andrew, Steven**; The BOC Group Plc, Chertsey Road, Windlesham, Surrey GU20 6HJ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

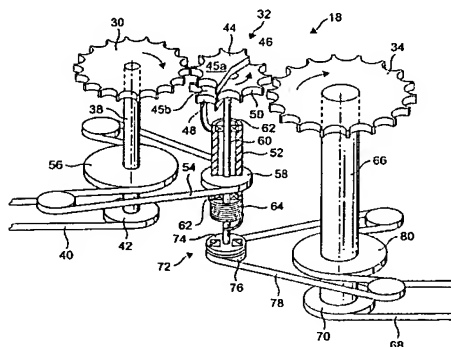
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **STAR WHEEL**



(57) Abstract: A conveyor system (10) comprises a star wheel (32) for receiving articles (14) from a first conveyor (12) and dispatching the articles to a second conveyor. The star wheel comprises first and second segments (44, 46) each having a perimeter adapted to receive articles to be conveyed. A first shaft (52) rotates the first segment (44) about an axis, and a second shaft (60) rotates the second segment (46) about the axis. In one embodiment, a torsion spring (64) resiliently connects the shafts (52, 60) together. The first shaft (52) is connected to a first drive for rotating the first and second shafts (52, 60) together about the axis. The second shaft (60) is connected to a clutch (72) arrangement for selectively connecting the second shaft (60) to a second drive for rotating the second shaft about the axis at a different speed from the first shaft, for example, in the event that the first drive is switched off. This enables the second segment (46) to continue to rotate during deceleration of the first segment and thereby to continue to convey articles to the second conveyor. The clutch arrangement (72) disconnects the second segment (46) from the second drive before it clashes with the first segment (44) or any articles (14) conveyed thereby, the torsion spring (64) automatically returning the second segment (46) to a predetermined position relative to the first segment (44) for subsequent rotation with the first segment when the first drive is switched on again.



WO 2005/090210 A1